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EXAMINER

KOENIG, ANDREW Y

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| ART UNIT | PAPER NUMBER |
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2611

DATE MAILED: 08/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/816,917

Applicant(s)

ADY ET AL.

Examiner

Andrew Y. Koenig

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 May 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3,8-22,24-26 and 29-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3,8-22,24-26 and 29-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 5/13/05.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-3, 8-22, 24-26, and 29-33 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,684,242 to Bahlmann (hereafter Bahlmann '242) in view of U.S. Patent 6,750,879 to Sandberg and Data-Over-Cable Service Interface Specification SP-CMCI-105-001215 (hereinafter DOCSIS).

Regarding claim 1, Bahlmann '242 teaches a headend (206), which equates to the claimed distribution hub. Bahlmann '242 teaches cable modems (210-216) connected to the distribution hub.

Bahlmann '242 is silent on a button physically located on the cable modem. In analogous art, Sandberg teaches a diagnostic tool, which is on the customer premise equipment that queries the cable modem for status information, which has test initiators accessible from the cable modem by virtual buttons on a computer display (col. 9, ll. 1-12, col. 9-10, ll. 41-9). Therefore, it would have been obvious to one of ordinary skill in

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the art at the time the invention was made to modify Bahlmann '242 by permitting the user to access tests on the cable modems as taught by Sandberg in order to enable the user to further self diagnose a cable modem thereby reducing the number of user support calls and service calls to demarcate and correct problems (Sandberg: col. 2, ll. 25-26).

Bahlmann '242 teaches using a web interface from a web site to receive information, but Bahlmann '242 and Sandberg are silent on explicitly disclosing a button. DOCSIS teaches that diagnostics must be run on demand by the subscriber by way of easy access by the installation program (pg. 42, C.4.1). However DOCSIS is silent on a physical button per se. Official Notice is taken that buttons on devices are well known in the art such as reboot and power (in order to run a Power On Self Test – POST). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Bahlmann '242, Sandberg, and DOCSIS by using buttons in order to enable the user to easily contact support staff for resolving issues.

Bahlmann '242 is silent on a testing unit that tests the operation of the one remote device in response to initiation from said test initiation unit. Sandberg teaches the testing unit as the CPE, that tests the operation of the cable modem in response to the self test request code which clearly transmits a signal to a device. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Bahlmann '242 by tests the operation of the one remote device in response to initiation from said test initiation unit using the testing unit as taught by Sandberg in

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order to enable the user to further self diagnose a cable modem thereby reducing the number of user support calls and service calls to demarcate and correct problems (Sandberg: col. 2, ll. 25-26).

4. Claims 2-3, 24-26, and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,684,242 to Bahlmann (hereafter Bahlmann '242), U.S. Patent 6,750,879 to Sandberg and Data-Over-Cable Service Interface Specification SP-CMCI-I05-001215 (hereinafter DOCSIS) in view of U.S. Patent 6,393,478 to Bahlmann (hereafter Bahlmann '478).

Regarding claim 2, Bahlmann '242 teaches providing to a network service provider the user information report file, which is stored in a database (640); which reads on a means to identify the cable modems has the means to identify a the cable modem of a transmitted self-test request code.

Bahlmann '242 and Sandberg are silent on pinging the cable modem. In analogous art, Bahlmann '478 teaches pinging the modems (col. 15, ll. 33-48). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Bahlmann '242 by pinging as taught by Bahlmann '478 in order to remotely diagnose a problem thereby saving time and money compared to sending personnel to the devices in the field (Bahlmann '478: col. 2, 8-12).

Regarding claim 3, Bahlmann '242 and Sandberg are silent on determining whether a device has previously registered with the network. Bahlmann '478 teaches determining whether a device has previously registered with the network (col. 11, ll. 32-

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60). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Bahlmann '242 by determining whether a device has previously registered with the network as taught by Bahlmann '478 in order to efficiently and systematically determine the cause of a problem within the network.

Regarding claim 24, Bahlmann '478 teaches cable modems (134-136).

Regarding claim 25, Bahlmann '478 teaches contact information (name, modem MAC, IP addresses, and telephone number) by the servicing data correlating the user with the device (see table 6).

Regarding claim 26, Bahlmann '478 teaches cable modems (134-136), identifies via IP addresses (see table 6).

Regarding claim 30, Bahlmann '478 teaches a hierarchy of test based on the problems, which clearly have a high occurrence probability.

5. Claims 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable U.S. Patent 6,684,242 to Bahlmann (hereafter Bahlmann '242), U.S. Patent 6,750,879 to Sandberg and Data-Over-Cable Service Interface Specification SP-CMCI-I05-001215 (hereinafter DOCSIS) in view of U.S. Patent 6,356,633 to Armstrong.

Regarding claim 8, Bahlmann '242 and Sandberg are silent on an automatic response system. In analogous art, Armstrong teaches an automatic response system (col. 4, ll. 19-43). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Bahlmann '242 and Sandberg by using automatic response system as taught by Armstrong in order to efficiently process voice and e-mail requests and route to ready and able personnel and other response systems (Armstrong: col. 1-2, ll. 63-5).

Regarding claims 9 and 10, Bahlmann '242 and Sandberg are silent on voice response system and an e-mail service. Armstrong teaches both by responding to request via a return email message or a telephone call (col. 3, ll. 63-65). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Bahlmann '242 and Sandberg by responding to request via a return email message or a telephone call as taught by Armstrong in order to enable contact the user in the method most desirable to the user.

6. Claims 11-15, and 17-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,393,478 to Bahlmann (hereafter Bahlmann '478) in view of U.S. Patent 6,356,633 to Armstrong and Data-Over-Cable Service Interface Specification SP-CMCI-I05-001215 (hereinafter DOCSIS).

Regarding claim 11, Bahlmann '478 teaches a headend (112), which equates to the claimed distribution hub. Bahlmann '478 teaches cable modems (134-136)

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connected to the distribution hub, wherein the cable modem is capable of initiating a service request.

Bahlmann '478 teaches using a web interface from a web site to receive information, but Bahlmann '478 is silent on explicitly disclosing a button. DOCSIS teaches that diagnostics must be run on demand by the subscriber by way of easy access by the installation program (pg. 42, C.4.1). However DOCSIS is silent on a physical button per se. Official Notice is taken that buttons on devices are well known in the art such as reboot and power (in order to run a Power On Self Test –POST). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Bahlmann '478 and DOCSIS by using buttons in order to enable the user to easily contact support staff for resolving issues.

Bahlmann '478 teaches identifying devices via the host computer (100a), which has software (100b) comprising a database storing data of the devices in the network (col. 6, ll. 18-46), which equates to a servicing station. Bahlmann '478 teaches responding to pings (col. 11, ll. 5-8, col. 12, ll. 13-17), which is predetermined diagnostic testing implementing on the modems (col. 12, ll. 35-47). Bahlmann '478 teaches in response to the flag (either directly or indirectly) entering a self-test mode in that the device is queried from another device (col. 6, ll. 18-46), but Bahlmann '478 is silent on the user making a service check request and sending the data back to the user. In analogous art, Armstrong teaches making a service check request and sending the data back to the user (col. 3, ll. 50-65) in that the testing initiation signal is a flag causing a self-test request code, Armstrong teaches sending an e-mail, which is a flag indicating a

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self test request (Armstrong: col. 3, ll. 50-53). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Bahlmann '478 by making a service check request and sending the data back to the user as taught by Armstrong in order to enable the user to easily access information and efficiently process the received information.

Bahlmann '478 teaches identifying devices via the host computer (100a), which has software (100b) comprising a database storing data of the devices in the network (col. 6, ll. 18-46). Bahlmann '478 teaches pinging (col. 11, ll. 5-8, col. 12, ll. 13-17), examining the logs for errors (col. 12, ll. 35-47), and reporting the data to the web client (col. 12, ll. 41-47).

Regarding claim 12, Bahlmann '478 teaches receiving the MAC address from a subscriber database (col. 8, ll. 3-15), which identifies an IP from the DHCP server registration, see table 1, 6, col. 6, ll. 55-56, and determining the CMTS from the IP (as shown in the association of the IP addresses - see table 5, field 6, and table 6, field 3).

Regarding claim 13, Bahlmann '478 teaches that the device is pingable (col. 11, ll. 1-10, and showing whether the device is registered (see fig. 6, label 608).

Regarding claim 14, Bahlmann '478 teaches requesting the health information (col. 12, ll. 35-41) along with in table 6, the IP of the user's computer, which reads on the claims user's PC networking configuration.

Regarding claim 15, Bahlmann '478 teaches checking which each server has the MAC address of the client device (col. 14, ll. 58-67).

Regarding claim 17, Bahlmann '478 teaches checking for registration failures (col. 14, ll. 49-67), checking the DHCP server for the MAC address, but Bahlmann '478 is silent on checking for a functioning DHCP server, TFTP server, and a DHCP discover message. Official Notice is taken that checking the status of a device is well known. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Bahlmann '478 by checking the status of a device in order to efficiently diagnose the problem with the device.

Regarding claims 18-20, Bahlmann '478 teaches reporting errors as described in claim 11.

Regarding claim 21, Bahlmann '478 and Armstrong are silent on checking for a DHCP discover message, reporting invalid help addresses, and indicating that the device did not provide a DHCP discover. Official Notice is taken that checking logs, and indicating the information is well known in the art. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Bahlmann '478 and Armstrong by checking logs, and indicating the information in order to efficiently diagnose the problem with the device.

Regarding claim 22, Bahlmann '478 teaches checking the TFTP status information as shown in figure 8, but Bahlmann '478 and Armstrong are silent on checking the server for a logged request, checking the modem config file when the request is found and checking the CMTS to TFTP routing. Official Notice is taken that checking a log and determining IP routing is well known in the art. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Bahlmann '478 and Armstrong by checking a log and determining IP routing in order to efficiently diagnose the problem with the device.

7. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,393,478 to Bahlmann (hereafter Bahlmann '478), U.S. Patent 6,356,633 to Armstrong, and Data-Over-Cable Service Interface Specification SP-CMCI-I05-001215 (hereinafter DOCSIS) in view of U.S. Patent 6,750,879 to Sandberg.

Regarding claim 16, Bahlmann '478 and Armstrong are silent on physically checking the cable modem for a connection to the network. Sandberg teaches physically checking the cable modem for a connection to the network (fig. 11, col. 8, ll. 58-67, col. 13, ll. 6-22). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Bahlmann '478 and Armstrong by physically checking the cable modem for a connection to the network as taught by Sandberg in order to ensure that the connection is made by the user, thereby teaches

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the user how to properly connect the modem, which is a common cause of a bad signal (Sandberg: col. 13, ll. 12-14).

8. Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,684,242 to Bahlmann (hereafter Bahlmann '242), U.S. Patent 6,750,879 to Sandberg, Data-Over-Cable Service Interface Specification SP-CMCI-I05-001215 (hereinafter DOCSIS), and U.S. Patent 6,393,478 to Bahlmann (hereafter Bahlmann '478) in view of U.S. Patent 6,711,137 to Klassen et al. (hereafter Klassen).

Regarding claim 29, Bahlmann '478 teaches pinging the device (col. 11, ll. 5-8, col. 12, ll. 13-17), but Bahlmann '478 and Armstrong are silent on multiple packet sizes. Klassen teaches multiple packet sizes (col. 18, ll. 56-61). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Bahlmann '478 and Armstrong by using pings of multiple packet sizes as taught by Klassen in order to deduce aspects of network performance including determining network end-to-end bandwidth; determining network end-to-end queue delay; determining network end-to-end propagation delay; and determining network internal packet size (Klassen: col. 18, ll. 61-65).

9. Claims 31-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,684,242 to Bahlmann (hereafter Bahlmann '242) in view of U.S. Patent 6,393,478 to Bahlmann (hereafter Bahlmann '478).

Regarding claim 31, Bahlmann '242 teaches a headend (206), which equates to the claimed distribution hub. Bahlmann '242 teaches cable modems (210-216) connected to the distribution hub.

Bahlmann '242 teaches a recording data for each users remotely (col. 4, ll. 61-67) and providing information in response to a service call (col. 11, ll. 20-34), but Bahlmann '242 is silent on a remotely testing the operation of a the cable modems.

Bahlmann '478 teaches a remote testing of a cable modem (col. 5, ll. 41-54). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Bahlmann '242 by test initiator accessible on the cable modems as taught by Sandberg in order to enable the user to further self diagnose a cable modem thereby reducing the number of user support calls and service calls to demarcate and correct problems (Sandberg: col. 2, ll. 25-26).

Bahlmann '242 and Bahlmann '478 are silent on a telephone call. Official Notice is taken that the use of a telephone call to initiate testing is well known in the art. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Bahlmann '242 and Bahlmann '478 by placing a telephone call in order to perform additional testing and provide additional information to the support thereby enabling the support staff to quickly identify and resolve issues.

Regarding claim 32, Bahlmann '242 teaches examining the logs for errors (col. 12, ll. 35-47).

Regarding claim 33, Bahlmann '242 is silent on checking logs, DHCP servers, TFTP servers, and DHCP Discover messages. Bahlmann '478 teaches checking for registration failures (col. 14, ll. 49-67), checking the DHCP server for the MAC address, but Bahlmann '478 is silent on checking for a functioning DHCP server, TFTP server, and a DHCP discover message. Official Notice is taken that checking the status of a device is well known. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Bahlmann '478 by checking the status of a device in order to efficiently diagnose the problem with the device.

Regarding claim 34, Bahlmann '242 and Sandberg are silent on automatically providing the user with connection test results. Official Notice is taken that the use of automated responses, such as known system outages for a given region is well known in the art. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Bahlmann '242 and Sandberg by automatically providing the user with connection test results in order to provide the user with additional information thereby efficiently addressing the user's problem.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

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§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew Y. Koenig whose telephone number is (571) 272-7296. The examiner can normally be reached on M-Th (7:30 - 6:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher Grant can be reached on (571) 272-7294. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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A handwritten signature in black ink, appearing to read 'Christopher Grant', is positioned above the printed name.

**CHRISTOPHER GRANT
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600**